Operating manual / Hints for connection
Motorbike communication system
AE 500
Special Version adapted for Commercial Radio



Purpose for use

The communication system AE 500 has been designed for speech communication between motorbike driver and passenger. To achieve this you use the supplied helmet speaker sets which have to be fitted into already existing integral helmets (the set cannot be installed in jet helmets). The set gives you the opportunity for duplex communication between driver and passenger and vice versa.
The integrated Mono FM radio can be switched over to radio reception. The talking connection has priority to radio reception: while talking the radio volume will be automatically decreased.
Furthermore the following equipment can be connected:

- external MP 3 or CD/DVD player via 3.5 mm jack plug (instead of integrated radio)
- a professional mobile radio (like ALAN HM 135) with modified 6 pin MIc connector, for communication via driver and passenger in connection with supplied transmit (push-to-talk) keys

The set can be operated with 2 x AA size Alkaline or rechargeable NiCd/ NiMH batteries for Intercom operation independent from the mobile radio power supply. In case that the mobile radio is switched on, it will be powered from the radio.

Declaration of Conformity:
The motorbike communication system fulfills the European EMC standards. such as EN 55 013 (radio), EN 301 489-1, EN 301 489-5 (EMC for professional radios and accessories) and EN 60950 (electric safety) and it carries the CE- mark. The actual EC declaration of conformity can be downloaded from
www.alan-albrecht.info

Conditions for accessories

Radio connection: The 2-way radio connection of the AE 500 special edition fits to ALAN HM 135 professional radios.
To enable headphone operation, the front panel section of the HM 135 must be modified so that the receiving audio is available at PIN 5 of the HM 135 microphone 5 pin connector (=programming pin via 4.7 kOhm) This has to be done by authorised service persons only. If this modification is not done, receiving of 2-way radio transmission is only possible via the radio's loudspeaker system and not in the earphones of the intercom system.

MP3/DVD/CD-connection: 3.5 mm stereo plug. The radio is being switched off the moment the cable is being inserted.

Hints for installation and connection

Fitting of helmet set:
The two helmet sets consist of two ultraflat padded ear sets to be inserted in the helmet, a microphone to be installed inside the helmet close to your mouth and a waterproof transmit talk button which can be fixed within reach of the handle-bar or at your glove.
Supplied are two self-adhesive pads for fitting the set in the helmet and a velcro tape adjustable in length to install the talk button. These adhesive pads do have an adhesive surface on one side (remove protective foil), on the other side there is a velcro clasp so that ear set and microphone can be easily installed or removed. Bikers with only limited space to install the talk button i. e. on a metal plate at the handle bars may remove the velcro tape and stick the talk button with adhesive pads directly to the desired location.
Please fix the ear sets with still a small gap between the ears and the helmet. Your ears should not be completely covered by the ear set because then you might not be able to listen to the surrounding noise of traffic (due to Road Traffic Act you may not use headsets that **completely cover** your ears because you might overhear honking or other signals).
Please do not carry out **any changes at the helmet** before installing the headset. ECE norm for motorbike helmets does not permit to flatten the material inside the helmet i. e. to make space for the ear set. Fix the microphone inside the helmet close to your mouth with the supplied velcro tape. Before fixing the adhesive pads thoroughly clean the desired location (i.e. with alcohol, but do not use any solvent). Press tightly and remember that it takes several hours until the final strength has been achieved.
You only need the talk buttons in case you want to operate an additional PMR (radio). You do not need the talk buttons for the basic intercom function between driver and passenger or radio/MP3.

If you do not use all cable connectors of the intercom set (for example only driver operation) You can cover the unused plugs with tape. Do not cut off unused cables!
The connections to the helmet set (black) and the talk buttons (yellow) are waterproof and cannot be mixed up. Connect the plugs with the markings facing each other.

Both headset connections for driver and passenger have the same priority. Intercom conversation is established just by talking (broadcast radio is automatically muted during talking into microphones) For talking via the professional mobile radio, just press the PTT button and talk.

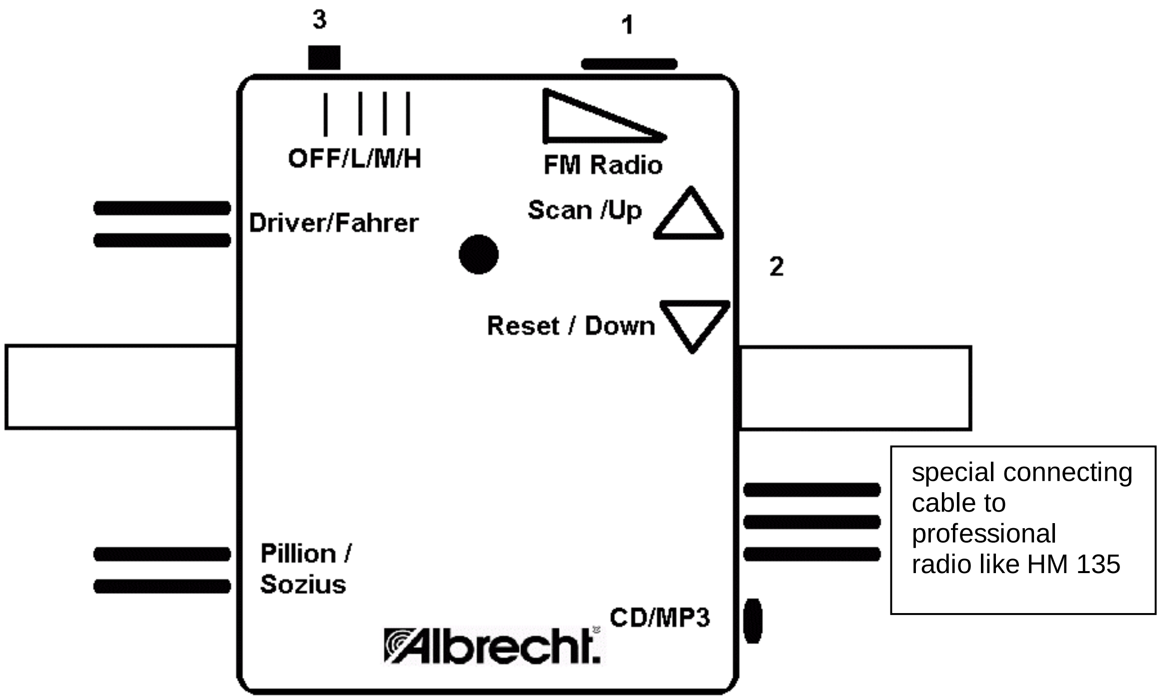
Power supply / Inserting of batteries
Only in case that You need to operate the intercom without connection to the 2 –way professional radio, You need to insert batteries. If You use the intercom always only together with the switched on 2 way radio, the unit can be powered automatically from the radio and does not need batteries. To insert batteries, open the battery lid at the bottom of the central unit. Insert two batteries or rechargeable batteries size AA (Mignon). Pay attention to the correct position of the battery poles. Power consumption during operation is very low: 40 to 50 hours operating time with alkaline batteries, about 30 hours with rechargeable batteries. Please use an external charger to charge

!

possibly used rechargeable batteries.

Warning: Never use batteries and rechargeable batteries mixed in the battery compartment. Only use batteries **or** rechargeable batteries of the same kind, and never mix full and empty batteries. Dispose of used batteries only at the authorised collecting points at special dealers. Pay attention to the different containers for batteries and rechargeable batteries. Batteries and rechargeable batteries are special waste, they may not be disposed of with household garbage. Never throw batteries or rechargeable batteries into any fire, never short-circuit the poles of batteries or rechargeable batteries: ***Danger of fire, explosion or injury may occur!***

Operation



FM Broadcast Radio and Intercom can be switched on and operated separately. Please make sure that radio and intercom are both switched off if not used. The red LED light is on if unit is ready for operation.

Broadcast Radio: Switching on/off is done with the volume setting integrated in the rotary potentiometer **(1).**
The radio has automatic frequency search function. Start automatic station search by pressing **SCAN / UP** key **(2)**. The automatic frequency search will now scan the FM radio range beginning at the lower limit close to 87.4 MHz to the upper end at 108 MHz for receiving signals and will stop at any signal which is strong enough for reception. Once having stopped at a station, you may restart **again from this position** by pressing the **SCAN/UP** consequently. The frequency search will stop when it has once reached the upper frequency range limit.
To reset the radio for a new full frequency search, use the lower key **RESET/DOWN. This will reset the frequency to the lower limit 87.4 MHz.** Press now the **SCAN/UP** button to start frequency serach again in upwards direction.

Intercom:
The intercom communication quality between driver and pillion depends on the environmental noise and the correct sensitivity adjustment. AE 500 has a 4 position slide switch **(3)**.
If you do not need the intercom (in case that you only want to listen to broadcast radio) use the left position,

Intercom (OFF).
The intercom enables a full duplex conversation: from driver's mic to pillion's headphones and vice versa.
You may select 3 different settings:

Position L (Low): For high speed motorbike driving. The mic sensitivity is rather low to avoid excessive noise pick-up. The setting is adjusted to normal biker's talking behaviour: You speak automatically louder if you are in a noisy, high speed environment.

Position M (Medium): For medium speed. The mic is now more sensitive, but may react to wind and engine noise in higher speed situations.

Position H (High): High sensitivity, for low speed and other applications. The mic reacts to normal voice volume.

Automatic broadcast FM radio muting: A speech detection circuit will reduce (mute) the radio or MP 3 player volume automatically, as soon as you start speaking to your partner and if the voice will be loud enough. Depending on the switch position (L, M or H) the muting starts at different speech loudness points, which ensures that the radio muting does not react to wind and engine noise. It is a good idea to make a voice training to speak as loud as the mute switch requests: this will be the optimum sound level point for the intercom.
A short moment after you stop talking, the radio or MP3 volume will automatically reach the former value again.

2-way radio conversation over the professional radio system:
Any voice communication can also be transmitted via 2-way radios like HM 135 or other suitable commercial radios. All you need is to plug in the radio cable with the 6 pin Western plug into the microphone socket of the professional radio and to connect the push-to-talk keys supplied with the AE 500 system. Please use the same switch position (L, M or H) as for intercom. Adjust the receiving volume at the professional radio. Take care that You adjust not too loud volume! Because some commercial radio models can provide a very high loudness volume, you should initially check with lower receiving volume and increase only if necessary.
Please use the push-to-talk (PTT) switch if you like to speak over the radio channel (without PTT switch only intercom is possible!). The MIC loudness to the radio is automatically adapted by selection of H, L, or M switch position, same as for intercom use. Release the push-to-talk key after you have finished speaking.

2-way radio receiving: Radio receiving has priority against broadcast or MP 3 player audio. Incoming radio communications from other stations will automatically mute the FM broadcast radio and MP 3 player. Muting is controlled by the squelch setting of the 2-way radio. After the radio channel becomes quiet again, the volume of the broadcast or MP 3 player audio will be increased again.

Standard MIc operation of the commercial radio:
Even after the modification to fit to AE 500 special edition, the MIC socket of Your commercial radio will be able to function as normal. It is possible to use the radio's original microphone, when the intercom is not needed. Just unplug the intercom's cable and insert again the standard microphone supplied with Your professional radio.

www.alan-germany.com / www.albrecht-online.de / www.alan-albrecht.info
Service e-mail: service@alan-germany.de
Service-Hotline: (+49) 6103-9481-30 (Mo-Fr. 8-12 h), **Fax (+49)** 6103-9481-60